REMARKS

In the Official Action mailed on **19 May 2006** the Examiner reviewed Claims 1-21. Claims 1-21 were rejected under 35 U.S.C. §103(a) as being anticipated by Santhanam (USPN 5,704,053, hereinafter "Santhanam"), in view of Wu et al. (US Pub. No. 2003/0066061 hereinafter "Wu").

Rejections under 35 U.S.C. §102(b)

Independent claims 1-21 were rejected as being anticipated by Santhanam, in view of Wu. Applicant respectfully points out that Wu deals with "value prediction," **not** "prefetching." More specifically, Wu teaches comparing the number of occurrences of a particular value of a load instruction relative to the total number of occurrences of all possible values for that load instruction (i.e., the frequency ratio of a load instruction), in order to make a decision about using that particular value as a specialized value for that load instruction (see Wu, paragraphs [0082] and [0087]-[0090]). These values are determined by profiling the load instruction.

In contrast, the present invention teaches **determining how many loop iterations ahead to prefetch for, i.e., the prefetch ahead distance**. This is beneficial because the prefetch ahead distance in the instant application describes a metric, i.e., number of loop iterations ahead to prefetch for, that is a function of specific loop characteristics such as the stride in the particular loop being considered, the execution time of this loop iteration (this parameter may be a function of the probability of execution of basic blocks within that loop), as well as system characteristics such as the prefetch latency, the number of outstanding prefetches and the number of prefetch streams (see page 15, lines 4-25 of the instant application). **The use of such a metric will enable optimizing the prefetching in a manner that is tuned to the system characteristics as well as the particular loop characteristics.**

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There is nothing within the combined system of Santhanam and Wu, either explicit or implicit, which suggests determining a metric that either describes the number of loop iterations ahead to prefetch for, or describes a metric that employs both code as well as system characteristics.

Accordingly, Applicant has amended independent claims 1, 8, and 15 to clarify that the present invention determines the number of loop iterations ahead to prefetch for, i.e., the prefetch ahead distance. These amendments find support on page 15 of the instant application.

Hence, Applicant respectfully submits that independent claims 1, 8, and 15 as presently amended are in condition for allowance. Applicant also submits that claims 2-7, which depend upon claim 1, claims 9-14, which depend upon claim 8, and claims 16-21, which depend upon claim 15, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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Date: 14 June 2006

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